

**WHAT IS CLAIMED IS:**

1. A method of making an indazole comprising:
  - a) nitrosation of an aromatic aldehyde to form a nitroso aromatic aldehyde; and
  - b) reacting said nitroso aromatic aldehyde with at least one reducing agent to form  
5 an indazole; and
  - c) reacting said indazole with a sulfonyl halide or anhydride to form a corresponding sulfonic ester.
2. The method of claim 1 further comprising:
  - d.) reacting said corresponding sulfonic ester with said metal azide to yield an azido  
10 indazole; and
  - e.) reacting said azido indazole with a hydrogen source and a catalyst to yield amino alkyl indazole.
3. The method of claim 1, wherein said indazole is a hydroxy alkyl indazole.
4. The method of claim 1, wherein said aromatic aldehyde has the formula  
15  $\text{Ar}(\text{CHO}) (\text{NHR})$  wherein R is -OH, an alkyl group, or an aromatic group and Ar is a substituted or unsubstituted aromatic group.
5. The method of claim 4, wherein said aromatic group is an aromatic sulfide, an aromatic nitrogen group, or an unsubstituted or substituted aromatic group.
6. The method of claim 1, wherein said method occurs at a temperature of from  
20 about ambient temperature to about  $-25^{\circ}\text{C}$ .
7. The method of claim 1, wherein said nitrosation comprises the addition of at least one organic nitrite or inorganic nitrite.
8. The method of claim 1, wherein said reducing agent is a metal.
9. The method of claim 1, wherein said reducing agent is zinc.
- 25 10. The method of claim 1, wherein said catalyst is in the presence of at least one

organic solvent.

11. The method of claim 10, wherein said organic solvent comprises acetic acid.

12. The method of claim 1, wherein said aromatic aldehyde is formed from reacting an indole with ozone in at least one organic solvent followed by addition of at least one reducing agent to form a formyl aromatic aldehyde.

13. The method of claim 12, wherein said formyl aromatic aldehyde is reacted with a base or acid in the presence of water and at least one organic solvent to yield said aromatic aldehyde.

14. The method of claim 1, wherein said aromatic aldehyde is a benzoxo aromatic aldehyde.

15. The method of claim 1, wherein said aromatic aldehyde is a benzoxo aminobenzaldehyde.

16. A method of making an indazole comprising:

a) nitrosating a 2-(hydroxyalkyl)aminobenzaldehyde to form a 2-(hydroxyalkyl)nitrosaminobenzaldehyde; and

b) reacting said 2-(hydroxyalkyl)nitrosaminobenzaldehyde with at least one reducing agent to form an indazole.

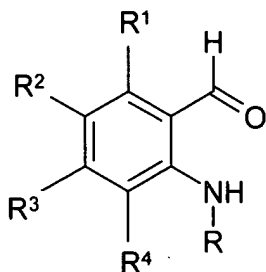
17. The method of claim 16 further comprising:

c.) reacting said indazole with a sulfonyl halide or sulfonic anhydride to form a corresponding sulfonic ester;

d.) reacting said corresponding sulfonic ester with a metal azide to yield a 1-(azidoalkyl)indazole; and

e.) reacting said 1-(azidoalkyl)indazole with a hydrogen source and a catalyst to yield a 1-(aminoalkyl)indazole.

18. The method of claim 16, wherein said 2-(hydroxyalkyl)aminobenzaldehyde has the formula



wherein

5 R is a C<sub>2</sub> to C<sub>12</sub> alkyl group substituted with at least one OH group and optionally substituted with phenyl, methoxyphenyl, (dimethylamino)phenyl, OR<sup>5</sup>, OC(=O)R<sup>5</sup>, OC(=O)OR<sup>5</sup>, N(R<sup>5</sup>)<sub>2</sub>, N(R<sup>5</sup>)C(=O)R<sup>5</sup>, N(R<sup>5</sup>)C(=O)OR<sup>5</sup>, or with one or more F atoms; R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are independently H, F, Cl, Br, CF<sub>3</sub>, OH, OR<sup>5</sup>, OC(=O)R<sup>5</sup>, OC(=O)OR<sup>5</sup>, N(R<sup>5</sup>)<sub>2</sub>, N(R<sup>5</sup>)C(=O)R<sup>5</sup>, N(R<sup>5</sup>)C(=O)OR<sup>5</sup>, NO<sub>2</sub>, CN, N<sub>3</sub>, SH, S(O)<sub>n</sub>R<sup>5</sup>, C(=O)R<sup>5</sup>, COOH, COOR<sup>5</sup>,  
 10 CON(R<sup>5</sup>)<sub>2</sub>, C<sub>1</sub> to C<sub>6</sub> alkyl optionally substituted with phenyl, methoxyphenyl, (dimethylamino)phenyl, C(=O)R<sup>5</sup>, COOH, COOR<sup>5</sup>, CON(R<sup>5</sup>)<sub>2</sub>, CN, OR<sup>5</sup>, OC(=O)R<sup>5</sup>, OC(=O)OR<sup>5</sup>, N(R<sup>5</sup>)<sub>2</sub>, N(R<sup>5</sup>)C(=O)R<sup>5</sup>, or N(R<sup>5</sup>)C(=O)OR<sup>5</sup>; or R<sup>1</sup> and R<sup>2</sup> as herein defined taken together form a ring, or R<sup>2</sup> and R<sup>3</sup> as herein defined taken together form a ring, or R<sup>3</sup> and R<sup>4</sup> as herein defined taken together form a ring; R<sup>5</sup> is C<sub>1</sub> to C<sub>6</sub> alkyl optionally substituted with phenyl,  
 15 methoxyphenyl, (dimethylamino)phenyl, methoxy, ethoxy, benzyloxy, or with one or more F atoms, or R<sup>5</sup> is phenyl, methoxyphenyl, or (dimethylamino)phenyl; and n = 0, 1, or 2.

19. The method of claim 16, wherein said nitrosation comprises the addition of at least one organic nitrite or inorganic nitrite.

20. The method of claim 16, wherein said reducing agent is zinc.

20 21. The method of claim 16, wherein said 2-(hydroxyalkyl)benzaldehyde is enantiomerically enriched.

22. The method of claim 17, wherein said catalyst is palladium on charcoal.
23. The method of claim 17, wherein said hydrogen source is ammonium formate.
24. The method of claim 17, wherein said 1-(aminoalkyl)indazole is enantiomerically enriched.
- 5 25. The method of claim 18, wherein R is 2-hydroxypropyl.
26. The method of claim 18, wherein R is (*R*)-2-hydroxypropyl.
27. The method of claim 18, wherein R is (*S*)-2-hydroxypropyl.
28. The method of claim 18, wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are H, and R<sup>3</sup> is benzyloxy.
29. The method of claim 18, wherein R is 2-hydroxypropyl, R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are H,  
10 and R<sup>3</sup> is benzyloxy.
30. The method of claim 18, wherein R is (*R*)-2-hydroxypropyl, R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are  
H, and R<sup>3</sup> is benzyloxy.
31. The method of claim 18, wherein R is (*S*)-2-hydroxypropyl, R<sup>1</sup>, R<sup>2</sup> and R<sup>4</sup> are  
H, and R<sup>3</sup> is benzyloxy.